"A Study on Effectiveness of Candlestick Charts in Technical Analysis with Special Reference To NIFTY 50 Stocks"

SYNOPSIS SUBMITTED TO

KARNATAKA STATE AKKAMAHADEVI WOMEN'S UNIVERSITY, VIJAYAPUR

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Synopsis

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Introduction:

Though the history of Indian Stock market dates back to 18th century, it gained much attention and public involvement only after 1992 i.e; after the enforcement of Securities and Exchange Board of India (SEBI) and after the establishment of NSE and its Electronic Trading Platform. With the increasing awareness of stock markets and ease in the trading through online platforms, now the stock market is gaining much popularity and increase in the investor base. According to the recent statistics around 2.78 Crore investors participate actively in the market out of which around 97% people fall into the category of individual investors. As the individual interest is increasing in the stock market, market analysis is taking the trend. Basically there are two ways of analysis stocks. First one is Fundamental analysis and the other one is Technical analysis. Fundamental analysis done though studying the company financials, Industry conditions and economy analysis. It helps to know the intrinsic value of the stock. Whereas the Technical analysis is done through analysing the recent trends in the price movements.

Technical analysis involves studying the price movements in past in order to forecast the future price movements. It assumes that the price of a share includes and depicts all the fundamental aspects and the market have the potential to correct itself. It strongly believes that history repeats itself and thus uses the past data to predict the future price movements.

Definition:

Punithavathy Pandian defines technical analysis as " the process of identifying trend reversals at an early stage to formulate the buying and selling strategies. Using several indicators, an investor analyses the relationship between price-volume and supply-demand for the overall market, as well as for the stock."

There are various tools and techniques available for technical analysis of the stocks. Such as Trend lines, Moving averages, Oscillators, Chart Patterns, Candlestick charts, Support and Resistance levels, Bar charts, Gaps, trend reversals etc.,

Chart patterns have always been popular among the investors because of the fact that they are visually more appealing and help in identifying the trend of the price movement by plotting the closing prices on the charts. Candlestick charts are a step ahead to these techniques because they depict Daily high,

low and opening prices along with mere closing prices. And are now becoming popular mostly among the intraday traders, because of their efficiency in predicting short term price movements.

Candlestick Charts:

These are the oldest of the price prediction charts. They are found to be developed and used by a Rice trader of Japan, Munehisa Homma to forecast the rice prices. The particular application helped him to have a hundred consecutive winning trades. They are brought to the Western World by Steve Nison in his Book, Japanese Candlestick Charting Techniques.

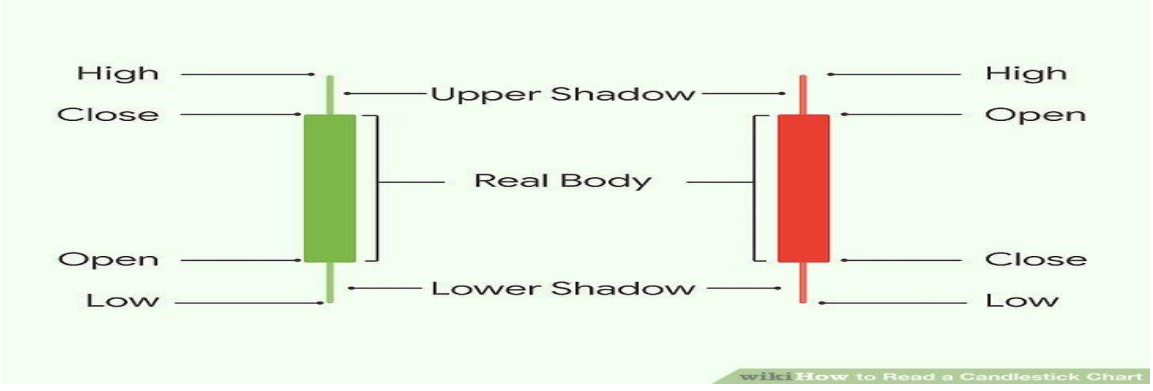
Meaning:

A chart that depicts four components they are Opening Price, High price, Low price and Closing price of an asset for a particular time frame is known as candlestick chart.

The candlestick will have two parts:

The Body: this is the part between the opening and closing price. If the opening price is more than the closing price the colour of the body will be black or Red. If the opening price is lower than the closing price the colour of the body shows white or Green. Or else we can say that filled body (black) or empty body (white).

The Shadows: The upper shadow is the line above the body and denotes the high price of the day and the lower shadow is the line below the body which depicts the low price of the day. In case of a black bodied candle upper shadow is between the opening price and the high price of the day and lower shadow or wick is between the closing price and the lower price of the day.vin a white bodied candle the upper shadow will be between the day's closing price and the high price of the day and the lower shadow will be between the day's opening price and the low price of the day.



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There are 16 Candlestick Pattern in total. Some patterns indicate a bull market and some give an indication of bear markets. This study is carried out to understand the predictive ability of the selected candlestick patterns in foreseeing the future price movements.

Objectives of the study:

- To understand the importance of Technical analysis.
- To analyse the price movements of stocks in Indian markets.
- To understand the various Candlestick patterns.
- To analyse the relevance of Candlestick charts in technical analysis.
- To check the predictive ability of Candlestick charts in predicting the price movements of stocks.

Proposed Research Methodology:

The main objective of the study is to check the predictive ability of the candlestick chart patterns in the technical analysis. The formation of particular pattern, the implied movement and the actual price movement is compared for the study.

Data Collection: 50 companies which comprise NIFTY- 50 Index for the period of 5 years starting from 1st January 2016 to 31st December 2020 are considered. The data for the study is collected from secondary sources. The main source being NSE website.

Proposed Statistical Tools: The study is proposed to be carried out using t-test and Binomial test for analysing the whether the implied movement and actual movement of particular candlestick pattern are same or not.

Hypothesis:

Null Hypothesis:

H_0: There is no significance difference in the implied movement and the actual movement of prices for the formation of particular candlestick chart pattern.

Alternative Hypothesis:

H_1: There is significant difference in the implied movement and the actual movement of prices for the formation of particular candlestick chart pattern.

Scope of the Study:

- The scope of this research will be limited to NIFTY 50 stocks. Other indices such as BSE etc., are not considered for the study.
- This study mainly concentrates on using candlestick patterns to predict the price movements of equity stocks of NIFTY. Other technical analysis tools like Bar chart are not considered in the study.
- Other instruments like derivatives, swaps and commodities are out of the scope of the study.
- The time period which is considered for the study is 5 years.

Literature Review:

Benjamin Richard Marshall (2005), conducted research on candlestick technical trading strategies for individual stock data of the companies of Dow Jones Industrial Index (DJII) for the period of 1st January 1992 to 31st December 2002. He found that trading on the signals generated by candlestick technical analysis does not add value for the major stocks traded in the U.S market.

Hercules A. Do Prado and others (2013), conducted research on the effectiveness of candlestick chart analysis for the Brazilian stock market. They took group of 10 stock of Bovespa (Sao Paulo Stock Exchange) for the period between 2005-2009. They studied 16 patterns of candlestick charts using a Binomial distribution in order to estimate the chance of observing a certain number of times the patterns confirmed the prediction. The outcome was that, out of 16 patterns, 9 patterns and consistent and relatively frequent. "Harami Bullish Pattern" had the greatest predictive ability while "Hanging Man Pattern" Pattern did not show any effectiveness in predicting the price movement.

George Joseph and others (2015), studied on the formation of candlestick patterns with reference to NIFTY Index for the past five years (i.e; 2009-2014) and they found that, out of 16 patterns only10 patterns occurred during the period and Bullish Engulfing Pattern was the most occurring pattern (38 times) followed by Bearish Engulfing Pattern (15 times). However their accuracy level is at 55% only. Dark Cloud Cover Pattern is the least occurring pattern (1 time) with 100% accuracy. Thus they conclude that users of candlestick patterns should consider other factor to improve the profitability.

B Lakshman (2015), Studied the overall performance and profitability of equities with the help of candlestick charts. The study is conducted for 20 companies NIFTY Stocks, using 4 different patterns. He found that the candlestick charts patterns are helpful and consistent in the most of the cases and thus proves the predictability of the candlestick charts patterns.

Sidharath Seth (2016), conducted research on predicting price movements using technical analysis using Head and Shoulder pattern and candlestick reversal patterns using daily high, low, open and Close prices of one month of NIFTY future contracts and stocks of CNX NIFTY Index for the period of 1st January 2000 to 31st March 2014. He used Binomial test and Bootstraped Skewness adjusted t-

test and regression analysis for the study. He concluded that technical analysis actually works and few patterns can help in generating profits and these patterns will be repeating over time and give profitable opportunities for investors.

Andreas Kiky and Ika Yanuarti (2017), Studied candlestick accuracy and investor gain with respect to 2 Indonesian companies for 3 years. He choose 6, 1 day pattern and 2 day patterns to study out of which 1 day pattern had accuracy of 41.38% and 2 day pattern 32.60% accuracy. Thus he concluded that investor should gain more information about the market and should also consider the fundamental analysis.

Philip Martinson and Ivan liljeqvist (2017), conducted study on short term stock market prediction based on candlestick pattern analysis and performed a comparative analysis and evaluated the impact of different RSI and Stop loss configurations on a trading algorithm based on candlestick patterns on Swedish OMXS30 and UKFTSE100 market and found that RSI and Stop loss to have a substantial impact on performance of stocks.

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